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ABSTRACT

College seniors--129 who were 25 years of age or older, and 734 younger students were administered the objective portion of the American College Testing (ACT) College Outcomes Measures Project (COMP) test. The total COMP scores and subscores were compared for the two groups, as well as their entering ACT scores and grade-point averages using analyses of variance. The relationship between total COMP scores, incoming ACT scores, and grade-point averages were also determined using a Pearson correlation method. Data were also obtained on sex, race, and marital status. Results showed that older students scored higher than their younger counterparts on the Total COMP scores and on the subscores obtained in the three content and three process areas. In addition, there was a significant relationship between COMP Total score and grade-point average. No significant relationships were found as a result of the analysis of the effects of sex, race, and marital status, and COMP Total score. It was concluded that the ACT COMP may not be the most accurate measure for use with older students since their life and work experiences give them greater competency in analysis, synthesis, and evaluation skills. Furthermore, the assessment of students' competencies cannot be an exact science dependent upon one specific standardized instrument. (KSA)

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Competency Based Exams and Older Students

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A number of colleges and universities are beginning to use competency based exit examinations in order to evaluate the success of their general education programs. One recent trend on U.S. campuses has been toward larger numbers of older, more experienced, entering students. This trend is due in part to an aging U.S. poulation, second career choices and more part-time students. The question to which this study addresses itself is whether or not this type of outcome testing is appropriate for use with students who have had the opportunity to gain knowledge from experiential learning situations compared to students who enter college directly from high school.

Older adults are entering higher education in increasing numbers. This increase is a direct result ofthe changes taking place in the population. It is estimated that by the year 2000 there will be an increase in adults between the ages of 35 and 44, and that people over 55 years of age will comprise 27% of the entire population. This increase in the older adult student population is taking place when there is a decrease in the number of traditional 18 to 22 year old potential students. Many older students are going to college for the first time, whereas others return to complete their degree or get job retraining. One of the difficulties faced by the older students has been related to the fact that most of these students are seeking educational experiences which are deliberately and explicitly associated with career performance (Greenhill, Metz, & Stander, 1982). College curricula often do not meet current professional needs (Chapman & Cleaveland, 1973). Older students may have different educational needs than their younger counterparts (Williams & Rich, 1978). One of the first steps necessary in the development of programs which will meet the needs of this population is adequate assessment of the learning experience.

There have been very few attempts at educational outcome assessment of the older students' university experience. A few studies have assessed the impact of the learning process on mature adults after they leave the educational system. However, these have generally focused

on specialized programs or groups (Speer & Dorfman, 1986). A number of colleges and universities are beginning to use competency based examinations to evaluate the success of their general education programs. These exams, typically given to entering freshmen and then again to graduating seniors, are used to assess progress toward "effective adult functioning", skills which may develop during the course of the students' college careers.

Some institutions use the American College Testing (ACT) Program's College Outcome Measures Project (COMP). The COMP evaluates students in three content areas: 1) Functioning in Social Institutions, 2) Using Science and Technology, and 3) Using the Arts, and in three process areas: 1) Communicating, 2) Solving Problems, and 3) Clarifying Values, as well as providing a Total COMP score. The instrument asks students to apply knowledge and skills in situations encountered in everyday living. Scores on the COMP purport to predict effective functioning in adult roles. Scores obtained on the instrument have been shown to correlate with other indicators of effective functioning, such as job supervisor ratings and economic status of job function (Forrest, 1982).

The purpose of this paper is to raise some questions regarding the validity of these assessment measures with older students who have gained knowledge from experiential learning situations compared to the validity with students who enter directly from high school. Another purpose of

this study is to look at what type of assessment would be helpful to both the older students and the institutions they attend.

METHODOLOGY

The students in the sample were administered the COMP in the last quarter of their senior year. A total of 863 students were tested, 129 of whom were 25 years of age and older (mean age = 28.6). These older students consisted of 52 females and 77 males; 114 were White, 6 Black, 6 Asian, and 1 American Indian. Forty-one were enmployed full-time, 43 part-time, and 42 were unemployed. Seventy-four were single, 46 married.

Scores for the older students were compared to the scores of 734 younger students. This younger group consisted of 350 females and 383 males. Six hundred and eighty-five were White, 30 Black, 11 Asian, 2 American Indian, and 2 Hispanic. Six hundred and fifty-nine of the younger subjects were single, and 68 were married.

The subjects were administered the objective portion of the COMP examination. This test is a "proxy" measure for the Composite Examination; it yields a maximum total score of 240 points for General Education, plus subscores in three process areas (Communicating maximum score = 72, Solving Problems maximum score = 96, Clarifying Values maximum score = 72) and three content areas (Functioning within Social Institutions maximum score = 80, Using Science and

Technology maximum score = 80, Using the Arts maximum score = 80) (Forrest & Steele, 1982).

The total COMP scores and subscores were compared for the two groups, as well as their entering ACT scores and grade point averages. These relationships were examined using Analyses of Variance. The relationship between total COMP score, incoming ACT scores, and grade point averages were also determined by using a Pearson correlation method. Data obtained on the demographic variables (sex, race, and marital status) are evaluated.

RESULTS AND DISCUSSION

Older students scored higher than their younger counterparts on the Total COMP score and on the subscores obtained in the three content and three process areas. The comparison of COMP scores with students' grade point averages and incoming ACT scores showed a significant relationship between COMP Total score and grade point average. These results are presented in Tables 1 and 2. The Pearson correlation coefficient calculated for the relationship between COMP Total score and grade point average was .31, and the correlation obtained for the COMP total score with incoming ACT score was .55. Both of these moderate correlations were significant at the .001 level. This signigicant correlation could also be partially attributed to the large sample size. No significant relationships were found as a result of the analysis of the effects of sex, race, and marital status, and COMP Total

Table 1

Analysis of Variance Summary Table: Younger and Older Students on COMP Total Score, Grade Point Average, and Incoming ACT Scores.

Source of Variation	df	SS	MS	F
COMP Total Score				
Between Groups	1	1369.09	1369.09	6.08*
Within Groups	861	193588.23	224.84	
Grade Point Average				
Between Groups	1	3.42	3.42	15.58*
Within Groups	857	188.05	0.21	
Incoming ACT Scores				
Between Groups	1	9.74	9.74	.40
Within Groups	700	17018.50	24.31	

*Significant at $p < .01$

Table 2

Analysis of Variance Summary Table: Younger and Older Students on COMP Subscores.

Source of Variation	df	SS	MS	F
Functioning within Social Institutions				
Between Groups	1	112.47	112.47	3.41
Within Groups	861	28361.93	32.95	
Using Science and Technology				
Between Groups	1	120.88	120.88	3.98*
Within Groups	861	26133.06	30.35	
Using The Arts				
Between Groups	1	169.98	169.98	4.24*
Within Groups	861	34429.82	39.99	
Communicating				
Between Groups	1	31.43	31.43	.75
Within Groups	861	35966.51	41.78	
Solving Problems				
Between Groups	1	366.18	366.18	9.01*
Within Groups	861	34978.26	40.63	
Clarifying Values				
Between Groups	1	95.88	95.88	3.66*
Within Groups	861	2256.99	26.19	

*Significant at $p < .05$

tial increases may not be evident at the end of a student's college career. Thus colleges with large proportions of older students may experience smaller increases in overall COMP scores than colleges without this type of population. This could be problematic, since in many cases, student achievement is one of the criteria by which state legislatures determine the allocation of state funds for higher education. An evaluation process should be consistent with the knowledge, values, and goals, of older students, and it should be based on a theory of adult learning (Decker, Redhorse, Lucas, & Adams, 1977).

The question of how to appropriately assess educational outcome becomes more complex with the needs and backgrounds of older students, if the administrative goal of assessment is to evaluate the learning experience in order to facilitate improvement of teaching and learning. A prospective study should assess younger and older students separately, beginning with the admission process and continuing throughout the educational experience. Cross (1986) states that evaluations should be formative, emphasizing improvement of the educational process. Often assessment results have impact only on the institutional level, not on the actual teaching/learning experience of the individual. The issue of academic freedom in the classroom needs to be addressed. The use of the ACT COMP may be valid if employed as one of multiple assessment measures; a single observation of educational outcome is unreliable and

score. In looking at the results of the ANOVA, the standard deviation and standard error of measurement are larger for the older students than for younger students. A possible conclusion which can be drawn from this is that the older student group appears to be more diverse and heterogeneous than the younger group.

The research findings on the effectiveness of this standardized test with older students are inconclusive if one is searching for a single assessment measure. It would seem that the ACT COMP may not be the most accurate measure for use with older students, since this group does seem to score significantly higher than younger students. These score differences are likely to be the result of older students' experiences in work, recreation, family, and possibly retirement activities, and as a result of these life experiences, they may have gained competencies in the higher level skills of analysis, synthesis, and evaluation. It is significant to note that two-thirds of the older students were employed full-time or part-time. Therefore, they are gaining experience by combining the world of learning with the world of work.

Forrest and Steele (1982), in the COMP technical manual, state that the COMP examination did not correlate with age. However, they did not specifically administer the the test to students who were older than the average student population. A possible negative consequence of this finding is that if competencies are higher to begin with, substan-

invalid. Convergent validation procedures need to be employed, such as behavioral assessments which coincide with knowledge and attitudes. Educational assessments should include as much of the total individual experience as possible, including personal goals, interactions with friends and professors, and the support group available. Assessing students' competencies cannot be an exact science dependent upon one specific standardized instrument. Most learning is based on a combination of individual differences and what the institution adds to the unique development of each student.

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